



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/791,552

03/02/2004

Paul DiCarlo

01194-461001

3274

26161 7590 08/27/2008

FISH & RICHARDSON PC  
P.O. BOX 1022  
MINNEAPOLIS, MN 55440-1022

EXAMINER

GEORGE, KONATA M

ART UNIT

PAPER NUMBER

1616

MAIL DATE

DELIVERY MODE

08/27/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/791,552	<b>Applicant(s)</b> DICARLO ET AL.	
	<b>Examiner</b> KONATA M. GEORGE	<b>Art Unit</b> 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-43, 48-50, 57, 68, 75 and 76 is/are rejected.
- 7) ☒ Claim(s) 44-47, 51-67, 69-74 and 77 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Claims 37-77 are pending in this application.

#### ***Action Summary***

Any rejections and/or objections of record that are not repeated below are considered withdrawn.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 37-43, 48-50, 57, 75 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morehouse, Jr. et al. (US 3,615,972).

Applicant claims a plurality of particles having a diameter from about 10 to 3,000 microns which comprise a polymer having an interior region and a surface region,

Art Unit: 1616

wherein the weight percent of the polymer in the interior region is less than the weight percent of the polymer at the surface region and further comprising a carrier fluid comprising a component selected from the group consisting of saline solution, a contrast agent and a surfactant.

***Determination of the scope and content of the prior art***

**(MPEP §2141.01)**

Morehouse, Jr. et al. teach thermoplastic microspheres (abstract). Column 2, lines 1-11 teach that the particle comprises a shell defining an outer spherical surface and also containing an inner spherical surface. Column 38, lines 57-62 teach that the particles have a diameter below 50 microns. Figure 1 of Morehouse, Jr. teaches that a blowing agent can be incorporated into the particles (col. 2, lines 5-6). Column 4, lines 9-19 teach examples of the blowing agent as aliphatic hydrocarbons. The blowing agent Column 13, line 65 through column 14, line 3 teach that the particles can be incorporated in coatings, by mixing the beads in a suitable binder and wherein the binder is dissolved in a solvent. Since the polymers of the interior region and surface region of the particles of Morehouse, Jr. et al are different, the weight percent of the polymer in the interior would be inherently less than the polymer of the surface.

Art Unit: 1616

***Ascertainment of the difference between the prior art and the claims***

**(MPEP §2141.02)**

Morehouse, Jr. et al. do not teach the carrier fluid selected from the group consisting of saline solution, a contrast agent and a surfactant.

***Finding of prima facie obviousness***

***Rational and Motivation (MPEP §2142-2143)***

It is the position of the examiner that the selection of the carrier material would have been obvious to one of ordinary skill in the art. Column 13, lines 72-74 gives guidance into the selection of the carrier (vehicle), but stating that the vehicle for the particles would depend upon the particular composition of which the particle would be utilized. Line 75 of column 13 through line 16 of column 14, further teaches that the vehicle should not be of such a nature that it chemically attacks or physically deforms the particle. It is therefore the position of the examiner that the prior art reference of Morehouse, Jr. et al. continues to read on the claimed invention.

***Response to Arguments***

Applicant's arguments with respect to claims 37-41, 43, 49, 50, 57, 75 and 76 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 68 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant recites that substituted cellulose can be used as an additional polymer for the composition. It is unclear to the examiner what a "substituted cellulose" is or what it is substituted with.

***Allowable Subject Matter***

Claims 44-47, 51-67, 69-74 and 77 remain objected to as stated in the office action dated April 24, 2008 and is repeated below. The prior art does not teach the interior region of at least 0.1 wt% and at most 50 wt% of the polymer. The prior art reference of Morehouse, Jr. does not teach the particle diameter as claimed in claims 52-53. Column 38, lines 57-62 teach that the particles have a diameter below 50 microns, whereas the particle of claim 52 is at least about 100 microns and at most 2,500 microns of claim 53. The prior art reference does not disclose the polymers as claimed in claims 55-64. The polymers of the prior art are acrylate or vinyl chloride-based and do not fall within the limitation of those described in the instant invention which are polyamides, polyalkylene oxide or polycarbonates. The prior art does not teach wherein the particles comprise a therapeutic agent as claimed in claims 65, 66, 69 and 70. The particles of the prior art are directed to the textile industry. The prior art

Art Unit: 1616

does not teach an additional polymer added to the particles or a coating disposed on the surface of the particles as claimed in claims 67 and 71-74. The prior art also does not teach that the interior region of the particles comprising large pores as claimed in claim 77.

### ***Conclusion***

Claims 37-43, 48-50, 57, 68, 75 and 76 are rejected.

### ***Telephone Inquiries***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Konata M. George, whose telephone number is 571-272-0613. The examiner can normally be reached from 8:00AM to 6:30PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter, can be reached at 571-272-0646. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 1616

For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have question on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Konata M. George/  
Primary Examiner, Art Unit 1616